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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,929	11/13/2001	Teng-Chun Tsai	4425-211	6350

7590

09/24/2003

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EXAMINER
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GOUDREAU, GEORGE A

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09-986929

Applicant(s)

Tsai et al

Examiner

George Goudreau

Group Art Unit

1763

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 30 days MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

☒ Responsive to communication(s) filed on 11-01-02 (in paper #1)

☐ This action is FINAL.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

☒ Claim(s) 1-36 is/are pending in the application.

Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☐ Claim(s) \_\_\_\_\_ is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☒ Claim(s) 1-36 are subject to restriction or election requirement

## Application Papers

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some\* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

☐ Copies of the certified copies of the priority documents have been received

in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Interview Summary, PTO-413

☐ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other \_\_\_\_\_

Office Action Summary

Art Unit: 1763

1. This application contains claims directed to the following patentably distinct species of the claimed invention:

Group 1:

- 1.) second metal is Ti (i.e.-claims 2, 11, 23);
- 2.) second metal is TiN (i.e.-claims 3, 12, 24);
- 3.) second metal is Ta (i.e.-claims 4, 13, 25);
- 4.) second metal is TaN (i.e.-claims 5, 14, 26);
- 5.) second metal is Al (i.e.-claims 6, 15, 27); and
- 6.) second metal is W (i.e.-claims 7, 16, 28)

Group 2:

- 1.) middle etch stop is Si<sub>3</sub>N<sub>4</sub> (i.e.-claims 8, 17, 29); and
- 2.) middle etch stop is SiC (i.e.-claims 9, 18, 30)

Group 3:

- 1.) barrier layer is TaN/Ta (i.e.-claims 20, 32); and
- 2.) barrier layer is TiN/Ti (i.e.-claims 21, 33)

Group 4:

- 1.) hard mask is SiC (i.e.-claim 34); and
- 2.) hard mask is Si<sub>3</sub>N<sub>4</sub> (i.e.-claim 35)

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species from each group for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 10, 19, 22, and 31 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is

allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventor ship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventor ship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(I).

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner George A. Goudreau whose telephone number is (703) -308-1915. The examiner can normally be reached on Monday through Friday from 9:30 to 6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Examiner Gregory Mills, can be reached on (703) -308-1633. The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) -306-3186.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) -308-0661.

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George A. Goudreau/gag

Primary Examiner

AU 1763